

# ZOOLOGISCHE MEDEDELINGEN

UITGEGEVEN DOOR HET

RIJKSMUSEUM VAN NATUURLIJKE HISTORIE TE LEIDEN  
(MINISTERIE VAN WELZIJN, VOLKSGEZONDHEID EN CULTUUR)

Deel 63 no. 7

21 juli 1989

ISSN 0024-0672

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## DESCRIPTION OF A FOURTH SPECIES IN THE GENUS *APHELINIS* ANTOINE (COLEOPTERA: CETONIIDAE)

by

**Ph. ANTOINE**

Antoine, Ph.: Description of a fourth species in the genus *Aphelinis* Antoine (Coleoptera: Cetoniidae).

Zool. Med. Leiden 63 (8), 21-vii-1989: 73-77, figs. 1-9. — ISSN 0024-0672.

Key words: Coleoptera; Cetoniidae; *Aphelinis*; Central Africa; new species.

A fourth species is described in the genus *Aphelinis* Antoine: *Aphelinis krikkeni*, from Central African Republic. Phylogenetic relations within the genus *Aphelinis* are considered.

Ph. Antoine, U.S.T.L. Flandres Artois, F-59655 Villeneuve d'Ascq CEDEX, France.

## INTRODUCTION

*Aphelinis* Antoine, 1987, is an African genus created to receive *Elaphinis xanthosternon* Bourgoin, 1919, *Anelaphinis collarti* Burgeon, 1931, and *Aphelinis clypealis* Antoine, 1987. Those species share, together with a strong external likeliness, a common structure of the male genitalia: the parameres are sclerified, elongate, subparallel and distinct; the left paramere overlaps the right one along the internal margin; the ventral part is entirely membranous; the internal sac is without any sclerite. I am indebted to Dr J. Krikken (Leiden Museum) for the communication of a male specimen pertaining to a fourth species that I am glad to name after him.

### ***Aphelinis krikkeni* spec. nov.**

Material examined. — Male holotype (Rijksmuseum van Natuurlijke Historie, Leiden). It bears the following labels: 1. [handwritten by Janson] [recto] Fort Crampel/French Congo [verso] E. le Moult/1915 2. [printed] Museum Leiden/verz. F.T. Valck/Lucassen/(O.E. Janson) 3. [red bordered] HOLOTYPE/*Aphelinis/krikkeni*/Ph. Antoine det. 1988.

Description. — Length 11,5 mm (measured from the anterior margin of the pronotum to the elytral apex), maximum breadth 7 mm.

Testaceous with brown or greenish black markings, opaque, elytra and abdomen with small greyish spots. Pronotum almost entirely black, with three conspicuous testaceous cells in the basomedian area; lateral part of mesepimera, scutellum, apical calluses, pygidium and mesometasternal process flavescent; abdomen mainly greenish brown.

Clypeus rectangular (fig. 1), finely punctate; anterior margin straight, truncated, neither marginate nor reflexed; clypeolateral ridge distinct; clypeolateral area narrow. Juxtaocular depressions with a strong but not very dense setigerous punctuation.

Pronotum transverse (fig. 2), with a rather sparse but large and deep setigerous punctuation; lateral margin irregularly marginate, slightly concave in its posterior half; hind margin widely rounded, with a shallow emargination in front of the scutellum.

Mesepimeron lateraly produced (fig. 3). Scutellum impunctate, rather long, with sinuated sides and blunt apex.

Elytron with spinose apicosutural angle and very strongly produced apical callus (fig. 4); sutural margin raised in posterior half; each costal interval with two irregular rows of arcuate punctures coalescing to form fragmentary geminate striae.

Propygidium slightly angulate in the middle. Propygidal spiracles produced.

Pygidium with a short, blunt, longitudinal median carina and two shallow lateral impressions.

Disc of pygidium and lateral sides of abdomen and of metasternum, with a sparse setigerous arcuate or annular punctuation.

Mesometasternal suture distinct; stria along the fore margin of the metasternum reaching almost the longitudinal median stria (fig. 5).

Front tibiae with two sharp teeth and a very obtuse one (fig. 6)

Parameres: figure 7.

**Identification and phylogenetic discussion.** — The following characters proved to be the most useful in the characterisation of species in the genus *Aphelinis* (table 1). Characters marked with an asterisk are phylogenetically interpretable (figure 8); in this case, "a" indicates the plesiomorphic state and "b" indicates the apomorphic state.

- \*1. Lateral margin of parameres: a, smooth, b, angulated or with a hook.
- \*2. Apical margin of parameres: a, broad, less rounded than the inner angle; b, narrow, as rounded as the inner angle.
- 3. Anterior margin of clypeus: a, marginate; b, reflexed; c, truncate.

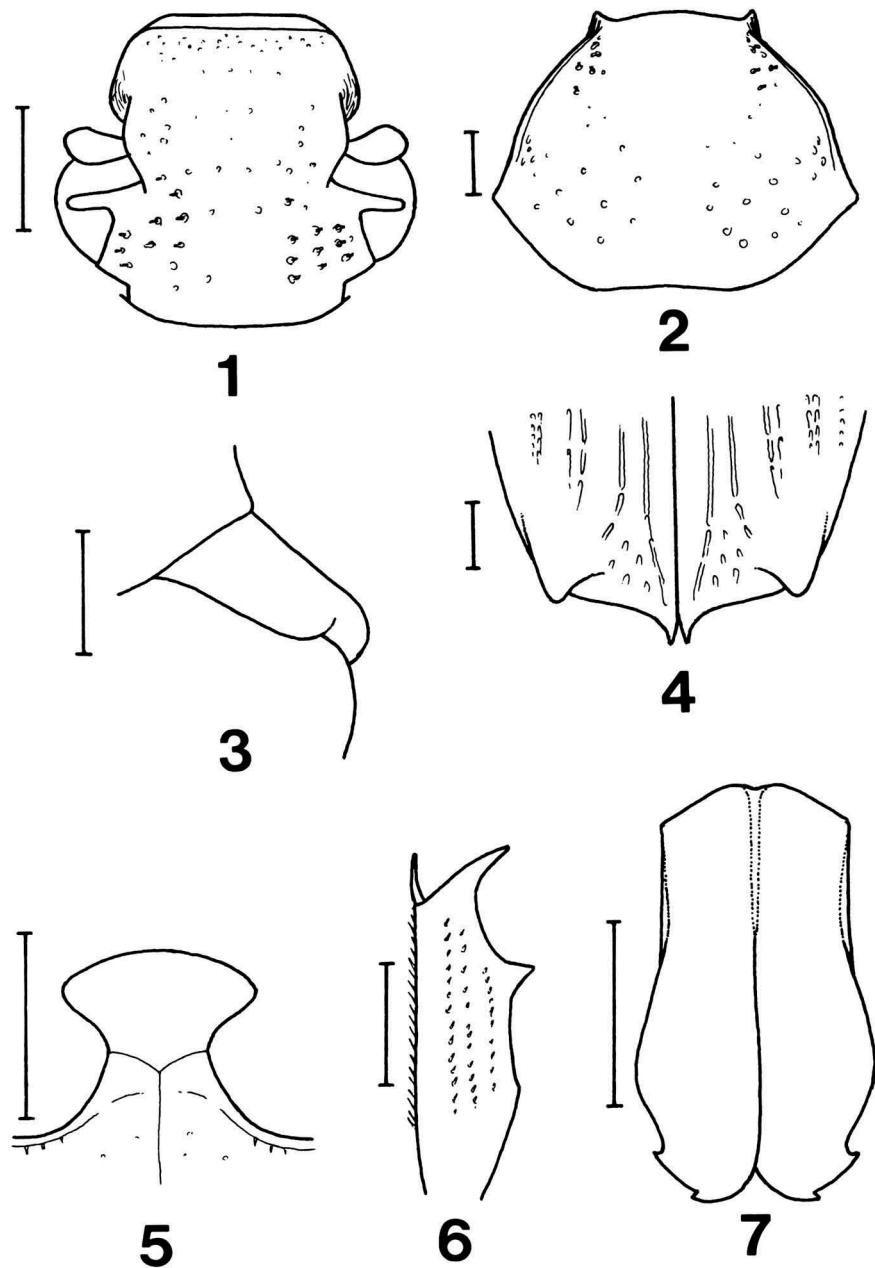


Fig. 1-7. *Aphelinus krikkeni*, holotype. Contours of: 1, head; 2, pronotum; 3, right mesepimeron (dorsal view); 4, apex of elytra; 5, mesometasternal process; 6, right front tibia; 7, parameres. Scale lines are 1 mm.

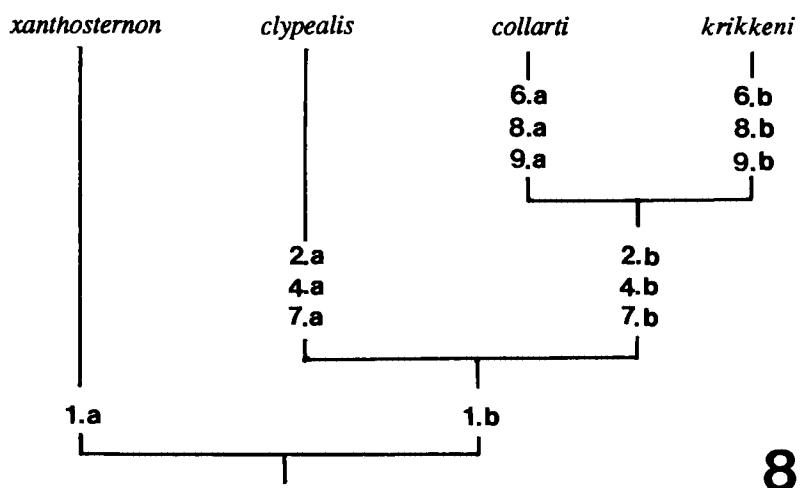


Fig. 8. Phylogenetic tree of the *Aphelinis* species. Numbers correspond to character numbers in the synoptic table of character states.

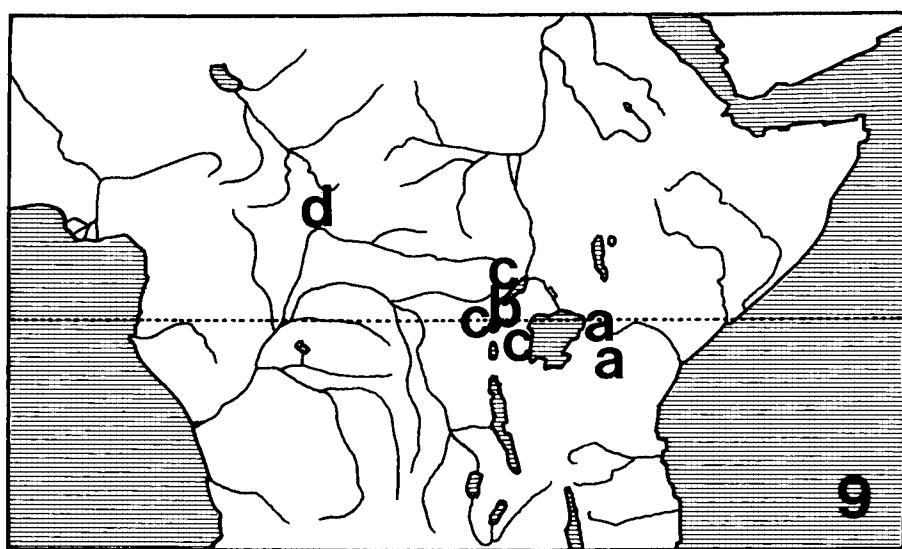


Fig. 9. Geographical distribution of the *Aphelinis* species: a, *A. xanthosternon*; b, *A. clypealis*; c, *A. collarti*; d, *A. krikkeni*.

- \*4. Lateral margins of pronotum: a, subparallel in the posterior half; b, converging from posterior angles to anterior angles.
- 5. Posterior margin of pronotum: a, regularly rounded, without an antescutellar emargination; b, drawn backward, with a shallow antescutellar emargination.
- \*6. Apical callus of elytron: a, not produced; b, produced.
- \*7. Apicostural angle of elytron (male): a, rectangular or acute; b, spinose.
- \*8. Propygidal spiracles: a, normal; b, produced.
- \*9. Pilosity: a, long and thin; b, short and thick.

TAXON	CHARACTERS								
	1	2	3	4	5	6	7	8	9
<i>xanthosternon</i>	a	a	a	a	b	a	a	a	a
<i>clypealis</i>	b	a	b	a	a	a	a	a	a
<i>collarti</i>	b	b	a	b	a	a	b	a	a
<i>krikkeni</i>	b	b	c	b	b	b	b	b	b

Table 1. Synoptic table of character states of *Aphelinis* species.

The phylogeny of the *Aphelinis* species, as depicted in the cladogram (fig. 8), and the distributional data (fig. 9) lead to locate the origin of *Aphelinis* in eastern Africa and to assume a westward expansion together with a correlative speciation.

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